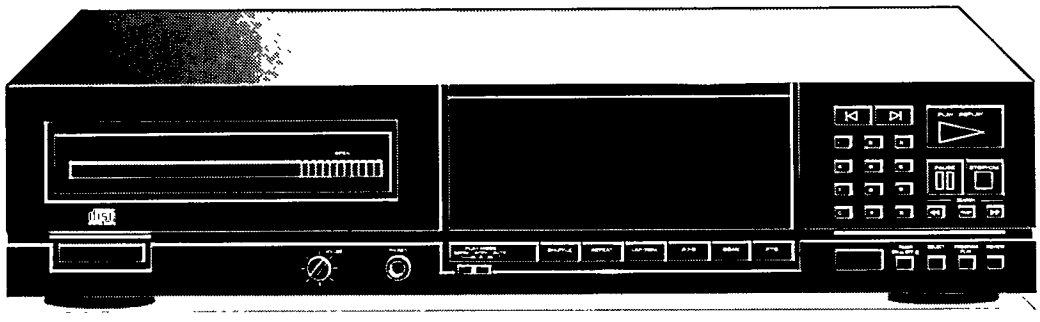
CONSUMER ELECTRONICS

PHILIPS



CD 880

GB	Compact Disc Player
F	Lecteur 'Compact Disc'
D	Compact-Disc-Spieler
NL	Compact Disc-Speler
I	Lettore Compact Disc

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1. INTRODUCTION

Welcome to the new sound experience of Compact Disc digital audio.

The Compact Disc player
This Compact Disc player not only offers excellent sound quality, ease of use and extensive display facilities, it also has a number of unique features, such as rapid access to any point on a disc ('Direct Track Access') and the possibility of direct programming ('Direct Program').
In addition, the tracks on the disc or in a program can be played in random order. This player also has various repeat functions and has the facility for connecting a timer.
Favourite Track Selection (FTS) allows you to store your favourite selection of music for each of your discs in the player's permanent memory. When playing a disc you can then, if you wish, listen to your previously chosen selection for that particular disc.
When making recordings of your Compact Discs, it is possible to automatically insert 3-second pauses between tracks. This is useful if your cassette player has track-seeking facilities.
Furthermore, this player is fully prepared for future developments in digital signal processing and CD-I and has both wired (electrical) and optical digital outputs.

The Compact Disc
Each separate piece of music on a compact disc is called a TRACK. Some new discs, mostly of classical music, also have INDEX numbers which show divisions within tracks. The track and index numbers for a disc are listed, together with the titles, on the card in the disc holder.
All Compact Discs are made so that they contain track and time information as well as the music; this is called the table of contents. The player shows all this information on the display so you can immediately see which track is being played and either the elapsed or remaining time for that track or the remaining playing time of the disc or program. The number of tracks and their playing times are also recorded in the table of contents on the compact disc. This information is read by the player at start-up.

This booklet explains how to install, use and program your Compact Disc player. Read it carefully and you will soon get used to the player and all its possibilities.

2. SUMMARY OF CONTROLS ETC.

Open the flap at the back of this booklet to see the labelled illustrations referred to in the text.

Front of player *(Fig. 1a)*

1 Disc tray on which the OPEN button is situated; the tray closes when the front is pressed briefly.
2 Display: gives information about the number of tracks on the disc, the playing time, the state of play at any given moment and about the special functions of the player. It also indicates when no disc has been inserted or when you make a mistake in operating the player.
3 CLEAR button: for cancelling mistakes when compiling a program, for deleting an item from a program or for erasing a favourite selection.
4 1-0 digit buttons: for moving on to a particular position on the disc or for compiling a program.
5 ⏮ TRACK ⏭ buttons: for selecting a previous or a later track, both before and during play and when programming.
6 STORE button: for storing details when compiling a program.
7 PLAY/REPLAY button: for starting play (PLAY) and returning to the beginning of a track (REPLAY).
8 PAUSE button: for holding play at the start of a track or passage, or interrupting play.
9 STOP/CM button: for stopping play; press twice to erase a program from the temporary memory (CM = Clear Memory).
10 ⏪ SEARCH ⏩ buttons: for fast forwards or backwards search for a particular passage. When used in conjunction with FAST, the search speed is increased and the sound switched off.
11 ON/OFF button: for switching the player on and off. The blue lights above the button and on the right-hand side serve as on/off indicators.
12 VOLUME control: for adjusting the volume when listening with headphones.
13 PHONES socket: for connecting headphones.
14 PLAY MODE switch with three positions: NORM, COPY and AUTO.
15 SHUFFLE button: for playing the tracks on a disc or in a program in random order.
16 REPEAT button: for repeating a disc or program.
17 LAP/REM button: for selecting which time information you want to appear on the display: 'REM TOTAL' - the total remaining playing time ('REM' = remaining), 'REM TRACK' - the remaining playing time of the current track, or 'TRACK LAP' - the elapsed playing time of the current track ('LAP' = elapsed). The TIME button on the remote control handset has the same function.
18 A > B button: for setting the start and stop point of a continuous play loop.
19 SCAN button: for automatically playing the beginning of each track on the disc.
20 FTS button: for activating the Favourite Track Selection circuit.
21 IR receiver: for receiving infrared signals from the remote control handset.
22 TIMER ON/OFF: for making the player automatically begin playing when a timer is used. If there is an FTS program of the disc in the memory then this will be played.
23 SELECT button: for selecting the SELECT setting to enter data when searching or programming.
24 PROGRAM PLAY button: permits direct selection and play (PLAY) or direct programming (PROGRAM) of tracks.
25 REVIEW button: for reviewing and checking a program. The contents of the program are displayed one by one.

Note: Most of the controls also appear on the remote control handset *(Fig. 1b)*. The two functions below can only be operated using the remote control handset:

26 ⏮ INDEX button: for returning to a previous index number during play.
INDEX ⏭ button: for moving on to a later index number during play.

27 – VOLUME + buttons: for adjusting the level of the signal sent out from the ANALOGUE OUT VAR sockets. When the player is switched off and then switched back or again, the last selected volume level will still be set.

Display *(Fig. 2)*
The display lights up when the player is switched on.
– 'OUTPUT LEVEL': indicates the level of the signal sent out from the ANALOGUE OUT VAR sockets.
– 'PAUSE' lights up when play is temporarily stopped.
– 'DISC' flashes immediately after loading a disc.
– 'ERROR' lights up briefly if you make a mistake when operating or programming.
– 'DISC' and 'ERROR' both light up briefly if the disc is loaded upside down or if the disc is missing or damaged.
– 'PROGRAM' lights up when a program is stored in the player memory and whenever it is played.
– 'A→B' lights up whenever a passage is played without interruption from start point A to stop point B. 'A→B' flashes until the stop point is set.
– 'FTS' lights up when a program from the permanent memory of the player is played. 'FTS' flashes briefly when a disc has been stored in the permanent memory. 'FTS' flashes after the FTS button has been pressed.
– 'REPEAT' lights up when a disc or program is repeated.
– 'SCAN' lights up after you have pressed the SCAN button so that the player plays the beginning of each track on the disc.
– 'REVIEW' lights up when you review a program.
– 'SHUFFLE' lights up when the tracks on the disc or in a program are played in random order.
– 'TRACK': The number shows the total number of tracks on the disc, or the track which is being played or selected at that moment.
– 'INDEX': The number only changes if a track contains different index numbers.
– 'MIN' and 'SEC': The numbers indicate in minutes and seconds the remaining playing time of a disc, a program or track, the elapsed playing time of a track or a selected time position. When in the STOP mode, the total playing time of the disc is shown.
– Under 'TIME' you can see what is being shown, the total remaining playing time ('REM TOTAL' lights up), the elapsed playing time of a track ('TRACK LAP' lights up) or the remaining playing time of a track ('REM TRACK' lights up).
– 'PLAY' lights up together with 'MODE' when the player is set to the direct play mode.
– 'PROG' lights up together with 'MODE' when the player is set to the direct programming mode.
– '1-20' track number indicator lights up as soon as the table of contents of the player has been traced. As many of these numbers as there are tracks on the disc remain alight. The progression of play can be followed as the track numbers go out one by one.
– '+20' lights up if there are more than 20 tracks on the disc.
– '(((O' next to 'IR' lights up when the IR receiver receives signals from the remote control.

Rear of player *(Fig. 3a)*
a OPTICAL: output for digital signal processing via an optical cable.
b DIGITAL OUT ON/OFF: for switching off the DIGITAL OUT sockets in case they disturb the signal from the analogue sockets.
c ELECTRICAL: output for digital signal processing or future applications such as CD-I.
d ANALOGUE OUT FIX: these analogue outputs produce a uniform signal.
e ANALOGUE OUT VAR: these analogue outputs produce a variable signal, the strength of which is determined by the – VOLUME + buttons on the remote control handset.
f SYSTEM REMOTE CONTROL IN/OUT: connection for external signal receiver for the remote control or for the remote control system of a HiFi system.
g Connection for the mains lead.
h FUSE (fuse holder): contains the main fuse for the player. If this should become defective, a new fuse of the same type must be used.

3. PRECAUTIONS

– ***Check*** that your mains supply voltage is the same as that given on the type plate on the rear of the player. If not, contact your dealer.
Certain versions of this player are equipped with a voltage selector on the rear panel. If you need to change the setting from 220/240 V to 110/120 V, you must at the same time replace the 200 mA fuse in FUSE holder with a 400 mA type.
– ***Never*** place the player directly on top of an amplifier which may produce considerable heat.
– ***Always*** stand the player horizontally on a flat, firm base. Allow space around it for ventilation.
– ***Never*** place the player in a hot sunny position.
– ***Never*** allow the player to get damp.
– Keep the player free from dust as far as possible.
– ***Never*** attempt to repair the player yourself. This will make the guarantee void.
– Do not place audio or video cassettes on top of the player because of the magnetic fields created by the transformer in the player.
– ***U.K. only:*** If you have to fit a mains plug, refer to 7F - 'Fitting a mains plug'.

4. INSTALLATION

The following are supplied with your Compact Disc player:
– mains lead
– optical connecting lead with 'Tos-Link' plugs
– analogue connecting lead with two cinch plugs at each end
– remote control handset
– batteries for remote control handset.
Do not forget to remove these from the box.
Remove all packing material from the player and the accessories.

1. Remove the two red transit clamps. These are situated on the underside of the player *(Fig. 4)*. Turn them in an anti-clockwise direction and withdraw them from the player.
Always store the two transit clamps in a safe place.
Always refit them before transporting the player.
2. Position the player as required, bearing in mind the precautions given above.
3. Lift back the cover at the rear of the remote control handset and insert the batteries as indicated in the battery compartment *(Fig. 5)*. Then close the cover again.

5. CONNECTIONS

This Compact Disc player can be connected in various ways. With the exception of OPTICAL, all connection sockets have a gold coating in order to minimize the contact resistance between sockets and leads. To maintain the quality of these connections we recommend that you use the connection leads supplied, the plugs of which also have a gold coating.

Connection via the OPTICAL socket
This output supplies a digital signal via an optical path; for this reason it can only be connected to a Digital Analog Converter, an amplifier with an optical digital input or a digital sound processor. For this the optical lead is used.

1. Remove the protective caps from the plugs *(fig. 3b)*.
2. Pull out the protective plug from the OPTICAL socket of the player *(fig. 3b)*.
Note: Store the protective caps in a safe place. If the lead is disconnected, these caps must be refitted. The same applies to the protective plug; this serves to keep the input free from dust when there is no plug in it, e.g. during transportation.
3. Connect one end of the lead to the OPTICAL socket on the Compact Disc player.
4. Connect the other end to the optical input of the D/A converter or of another piece of equipment.
Press in the plugs until you hear a click.
Important: Ensure that there are no folds in the optical lead because this will hinder the conduction of light.

Connection via the ELECTRICAL socket
This output also supplies a digital signal and can therefore only be connected to an input which is suitable for this signal. Use here a lead with one cinch plug on either end.

1. Connect one end of the lead to the ELECTRICAL socket on the player.
2. Connect the other end to the digital input of a D/A converter or other piece of equipment.
Important: Never connect the DIGITAL OUT ELECTRICAL socket to a non-digital input of an amplifier, such as AUX, CD, TAPE, or PHONO. This can damage the amplifier and the loudspeakers.

Connection via the ANALOGUE OUT FIX sockets to the amplifier
Here you use the lead which has two cinch plugs on either end.

1. Push both plugs on one end (white or L = left channel, red or R = right channel) into the ANALOGUE OUT FIX sockets on the player.
2. Push the plugs on the other end of the lead into the corresponding sockets of the CD or AUX input on your amplifier (or pre-amplifier, tuner-amplifier etc). If this is already in use, you can also use the TUNER or TAPE IN input, but under no circumstances should you use the PHONO input. This is not suitable for a Compact Disc player.

Connection via the ANALOGUE OUT VAR sockets to the amplifier
These sockets supply a variable signal, the strength of which is determined by the – VOLUME + buttons on the remote control handset.
After the player has been switched off and then back on again, the last selected volume level will automatically remain set.
Connection takes place in the same way as via ANALOGUE OUT FIX.

Connection to the mains supply
1. Press the plug of the mains lead supplied into the terminal socket.
2. Push the plug into the wall socket.

Your Compact Disc player is now ready for use.

6. USING THE PLAYER

The following items are described in this section:
A. Playing a complete disc
B. Special features during play
C. Possible ways of starting play
D. Programming
E. FTS (Favourite Track Selection)
F. Other possibilities

– When using this Compact Disc player, various indications in the display explain what is happening. These are given below.
– A description is also given of what could go wrong and what you should then do.
– The names used in the text to refer to the buttons are the same as those used on the player.

6A Playing a complete disc
1. Press ON/OFF.
– The display and the on/off indicators light up.
If the display does not light up:
Is the mains lead connected properly at both ends?
Is power available at the mains socket?
2. Press OPEN.
– The disc tray opens.
– 'DISC' lights up.
3. With your hand open and thumb and fingers extended, take the disc out of its holder, holding it by the edges and fit it, ***label side up***, into the cradle in the disc tray *(Fig. 6-7)*.
4. Close the disc tray by pressing gently on the front side.
– 'DISC' flashes on the display.
– The disc spins for a moment and then stops.
– 'DISC' goes out.
– The total number of tracks and total playing time of the disc are shown on the display.
If 'DISC ERROR' appears briefly on the display:
Has the disc been inserted correctly?
Is the disc dirty or damaged in any way? (See Section 7E - Maintenance)
5. Press PLAY/REPLAY.
– The disc starts to spin and play begins.
– The track number indicator shows how many tracks there are on the disc. Each time a track has been played, the number of that track goes out.
– The numbers above 'TRACK' and 'INDEX' always indicate which track and index number are being played at that moment, starting with track 1, index 1.
– 'TRACK LAP' appears on the display.
– The elapsed playing time of each track is shown above 'MIN' and 'SEC'.
You can go directly from step 3 to step 5.
If no sound (or distorted sound) is heard:
Is the disc dirty or damaged in any way? (See Section 7E - Maintenance)
Is the correct source selected on the amplifier?
Is the volume control on the amplifier still set to zero?
Is the Compact Disc player connected to your amplifier correctly? (See Section 5 - Connections)
Is the player positioned horizontally?
If play stops or if a set pause of 3 seconds is inserted between tracks:
Is the PLAY MODE switch on NORM?
6. Press LAP/REM (or TIME on the remote control handset) whenever you want to know the remaining time of the track.
– 'REM TRACK' then appears on the display.
– The remaining playing time of the track is shown above 'MIN' and 'SEC'.
7. Press LAP/REM again (or TIME on the remote control handset) if you wish to know the remaining playing time of the entire disc.
– 'REM TOTAL' appears on the display. Above 'MIN' and 'SEC' you will see the total remaining playing time.
– When the last track has been played, the player will stop automatically. The display again shows the total number of tracks and the total playing time of the disc.

8. Press OPEN.
– The disc tray opens.
– The information disappears from the display.
– The entire track number indicator lights up.
9. Take the disc from the disc tray.
10. Close the disc tray.
– 'DISC' appears briefly on the display, indicating there is no disc in the disc tray.
11. Press ON/OFF.
– The display and the on/off indicators go out.
– The player is now switched off.

6B Special features during play

Short interruption of play

1. Press PAUSE.
– 'PAUSE' appears on the display.
– The music stops but the disc continues to spin.

PLAY/REPLAY, ◀◀ SEARCH, FAST, SEARCH ▶▶, ⏮ TRACK and TRACK ⏭ may be used during pause to move to any particular location.

2. Press PAUSE again to restart play from where it was interrupted.

Stopping play

Press STOP/CM.
– The disc stops spinning.
– The display again shows the total number of tracks and total playing time.

Returning to the beginning of the current track

Press PLAY/REPLAY.
– Play stops for a moment, then restarts at the beginning of the track.

Moving to the next track (or any later track)

Key in the desired track number using the 1-0 digit buttons.
You can also repeatedly press TRACK ⏭ until the desired number appears on the display.
– The music stops, 'TRACK' flashes briefly on the display and a moment later the following track starts playing.

If there is no following track on the disc:
– 'ERROR' appears briefly on the display.
– Play continues with the current track.

Moving back to a previous track

Key in the desired track number using the 1-0 digit buttons.
You can also repeatedly press ⏮ TRACK until the desired number appears on the display.
– The music stops, 'TRACK' flashes briefly on the display and a moment later the following track starts playing.

If there is no previous track on the disc:
– 'ERROR' appears briefly on the display.
– Play continues with the first track.

Moving to the next (or any later) index number

Press INDEX ⏭ on the remote control handset.
– Play stops for a moment, then restarts at the beginning of the next index number (of the current track).

If the current track has no further index number:
– 'ERROR' appears briefly on the display.
– Play starts again from the first index number of the current track.

You can move forward to an index number which is further towards the end of the track by quickly and repeatedly pressing INDEX ⏭.
If you want to move forward to an index number in a later track, you must first select the required track number using TRACK ⏭ and then the required index number using INDEX ⏭.

Moving back to a previous index number

Press ⏮ INDEX on the remote control handset.
– Play stops for a moment, then restarts at the beginning of the previous index number.

If the current track has no earlier index number:
– 'ERROR' appears briefly on the display.
– Play starts again from the first index number of the current track.

You can move back to an index number which is closer to the beginning of the track by quickly and repeatedly pressing ⏮ INDEX.
If you want to move back to an index number in an earlier track, you must first select the required track number using ⏮ TRACK and then the required index number using INDEX ⏭.

Searching for a passage

1. Press SEARCH ▶▶ for a forward search.
2. Press ◀◀ SEARCH for a reverse search.
Keep the button pressed until you reach the required piece of music. At this searching speed the sound remains audible. This makes it possible to find the exact passage.

If you try searching past either end of the disc:
– 'ERROR' appears briefly on the display.
If you reach the end of the disc and release SEARCH ▶▶, play starts several seconds before the end.

Rapid search for a passage

1. Press FAST.
– *'FASt'* appears on the display above 'MIN' and 'SEC'.
2. Press SEARCH ▶▶ or ◀◀ SEARCH within 1 second.
Hold the SEARCH button pressed down; if you release the button for a moment, search will recommence at the slowest speed. At this searching speed no sound is audible. This enables you to move quickly towards the passage you are looking for.

Repeating a disc

1. Press REPEAT.
– 'REPEAT' appears on the display.
– The whole disc is repeated over and over.
2. To stop repeat, press REPEAT again.
– 'REPEAT' goes out.
– Play stops at the end of the disc.

Playing the tracks on the disc in a random order

Press SHUFFLE.
– 'SHUFFLE' appears on the display.
– If the tray is open, it will now close.
– A *'P'* appears above 'MIN'; above 'SEC' a two-second pause is counted down, whilst and indicator can be seen moving above it. This is repeated each time before a new track or program section is played.
– The tracks on the disc are now played in an entirely random order, not the order in which they appear on the disc. If there is a program in the memory, this will be played in a random order, not corresponding to the order in the program.

If you also press REPEAT, the disc will be played repeatedly and each time all tracks will be played in a different random order. During playback in random order, you can use the ⏮ TRACK ⏭ buttons.

Setting up a continuous play loop

Whilst a disc or program is playing you can set up a continuous play loop.

1. During play, press A > B at the required start point.
– 'A→B' starts flashing on the display.
– The start point of the play loop is set.
2. Press A > B again at the required stop point.
– 'A→B' lights up continuously.
– The stop point of the play loop is set.
– The laser pick-up immediately moves back to point A and everything between this point and point B will now be played. The laser pick-up then returns to point A and so on.

To quickly find the required start and stop points, you can use the SEARCH ▶▶ and TRACK ⏭ buttons.

3. To break out of the continuous play loop, press 'A > B' for the third time.
– 'A→B' goes out.
– The continuous play loop is broken, play continues as normal.

6C Possible ways of starting play

Starting with a particular track (Go to track...)
1. Place the disc on the disc tray.
2. Close the disc tray.
3. Enter the desired track number using the 1-0 digit buttons.
– The selected track number is shown on the display.
– 'TRACK' flashes on the display for 1 second and then remains lit up.
Two-digit numbers must be keyed in within this one second.
If you make a mistake you can press CLEAR within this time and then key in the correct number.
– Play starts at the beginning of the selected track.
If you select a track which does not exist:
– 'ERROR' appears briefly on the display.

Starting at a particular index number (Go to track.../index...)
Note: Make sure that no more than 7 seconds elapse between pressing buttons or the display will again show the total number of tracks and the total playing time.
If you make a mistake, provided that you have not yet pressed PLAY/REPLAY, you can press CLEAR at any time and start again.

1. Enter the required track number.
2. Press SELECT.
– 'INDEX' flashes on the display.
3. Enter the required index number.
– The selected index number is shown on the display.
4. Press PLAY/REPLAY.
– Play starts at the beginning of the selected index number.
If you select an index number which does not exist:
– 'ERROR' appears briefly on the display.
– Play starts at the beginning of the selected track.

You can also start with a particular index number by calling up the required track and index number on the display by using the TRACK ⏭ and INDEX ⏭ buttons and by then pressing PLAY/REPLAY.

Starting at a selected time within a track (Go to track.../time...)
Note: Make sure that no more than 7 seconds elapse between pressing buttons or the display will again show the total number of tracks and the total playing time.
If you make a mistake, provided that you have not yet pressed PLAY/REPLAY, you can press CLEAR at any time and start again.

1. Enter the required track number.
2. Press SELECT twice.
– 'MIN' flashes on the display.
3. Enter the minutes of the desired start time.
4. Press SELECT once more.
– 'SEC' flashes on the display.
5. Enter the seconds of the desired start time.
6. Press PLAY/REPLAY.
– Play starts at the selected time.
If you select a time position which does not exist:
– 'ERROR' appears briefly on the display.
– Play starts at the beginning of the selected track.

Scanning a disc
1. Press SCAN.
– 'SCAN' appears on the display.
– If the tray is open, it will now close.
– The first 10 seconds of each track are played in turn.
– The track number indicates the track being played.
– At the end of the scan, the disc stops and the display again shows the total number of tracks and total playing time of the disc.

During the scan, it is possible to use the 1-0 digit buttons and the ⏮ TRACK ⏭ buttons.

2. When the player reaches a track which you wish to hear in full, press SCAN again.
– 'SCAN' goes out.
– The remainder of the disc is now played, starting at the current point.

6D Programming

You can set up and store a program to determine what parts of a disc are to be played and in what order. Your program can contain any combination of:
– track numbers
– index numbers
– start and stop times within a track.
Such a combination is referred to as a 'program block'.
However, you are limited to 20 'memory blocks'. Each track number takes up 1 block, each index number takes up 2 blocks and each time position takes up 5 blocks. If you try to use more than 20 blocks, 'ERROR' appears on the display.
Before setting up a program, insert the disc and close the disc tray. It is also possible to set up a program before inserting the disc and closing the tray. If you then press PLAY/REPLAY the tray will close and the program will be played.
Note: If you make a mistake, provided that you have not yet pressed STORE, you can press CLEAR at any time and start again.

Storing a track number
1. First press PROGRAM PLAY.
– 'PROGRAM' appears on the display next to 'MODE'. The player is now in the direct programming mode; you can now enter track numbers directly into a program.
2. Enter the required track number, using the 1-0 digit buttons.
– 'TRACK' flashes briefly on the display.
– The track number is shown on the track number indicator and briefly on the display.
– 'PROGRAM' appears on the display.
– The track number is now stored in the player memory.
3. Repeat step 2 for each track number you want to store.
– The number of tracks and playing time of your program are shown on the display.
If 'ERROR' appears on the display:
Does the selected track number exist?
Are all 20 memory blocks already full?

You can also begin with step 2 and then press STORE to store the track number.

Storing an index number
Note: Make sure that no more than 7 seconds elapse between pressing buttons or the display will again show the total number of tracks and the total playing time.

1. Enter the required track number.
2. Press SELECT.
– 'INDEX' flashes on the display.
3. Enter the required index number.
– The index number is shown on the display.
4. Press STORE.
– 'PROGRAM' appears on the display.
– The index number is now stored.

When storing an index number, since the playing time of index numbers is not included in the table of contents recorded on the Compact Disc, this time will not be added to the total playing time of the stored program. '- - - -' then appears on the display.

5. Repeat steps 1-4 for each index number you want to store.

You can also store a particular index number by calling up the required track and index number on the display using the TRACK ⏭ and INDEX ⏭ buttons and then pressing STORE.

Storing a specific start and stop time within a track

Note: Make sure that no more than 7 seconds elapse between pressing buttons or the display will again show the total number of tracks and the total playing time.

1. Enter the required track number.
2. Press SELECT twice.
– 'MIN' flashes on the display.
3. Enter the minutes of the start time.
4. Press SELECT again.
– 'SEC' flashes on the display.
5. Enter the seconds of the start time.
6. Press STORE.
– The start time is now stored.
– 'MIN' flashes again.
7. Enter the minutes of the stop time.
8. Press SELECT once more.
– 'SEC' flashes again.
9. Enter the seconds of the stop time.
10. Press STORE.
– The stop time is now stored.
11. Repeat steps 1-10 for all start and stop times you want to store.

If 'ERROR' appears on the display:
You have entered a time which does not exist or too high a stop time

You can also store only a start time. To do so, follow steps 1-6 and then press STORE again.
– The rest of the track will then be stored as part of the program.

Storing track numbers using SCAN

This method of programming can only be used if you want to store track numbers in the same order as they appear on the disc.

1. Press SCAN.
– 'SCAN' appears on the display.
– If the tray is open, it will now close.
– The first 10 seconds of each track are played in turn.
– Above 'TRACK' and on the track number indicator the track being played is always shown.
2. Whenever a track which you want to store is played, press STORE.
– 'PROGRAM' appears on the display.
– The track number is now stored.
– The player immediately starts to scan the next track.
3. Repeat step 2 for each track you want to program.

Reviewing a program

1. Press REVIEW.
– 'REVIEW' appears on the display.
– The content of the program is shown on the display in the order in which it is stored.

If 'ERROR' appears on the display:
The memory is empty and nothing is stored.

2. Press REVIEW again to interrupt reviewing.
– 'REVIEW' will then go out.

You can review a program prior to or during programmed play. During reviewing you can use the ⏮ TRACK ⏭ buttons to move to a particular program block.

Erasing a track number, index number or start and stop times from a program

1. Press REVIEW.
– Each item of the program is displayed in the sequence in which it was stored.
2. Press CLEAR as soon as the number which you want to erase appears.
– The number you have erased disappears from the display.

Programmed play

Press PLAY/REPLAY.
– Play begins with the first item of your program.

All other buttons (except SCAN) can also be used but now the tracks will be played in the order in the program instead of the order on the disc (except when using SHUFFLE). Fast forward or backward search can only be used in the program block which is playing.
During play it is possible to add to the program.

Returning to the start of a program block

Press PLAY/REPLAY.
– Play stops for a moment, then restarts at the beginning of that program block.

To erase the program

Press STOP/CM twice, or if the disc has already stopped, just once.
You can also press OPEN straight away.
– 'PROGRAM' goes out.
– 'PLAY MODE' lights up.
The program has now been erased.

6E Favourite Track Selection (FTS)

If a program contains your favourite selection from a disc, which you always want to play, you can keep it by transferring it to the FTS memory. Such a selection can then be called up again at any desired time.

Note: When using FTS, the FTS button must always be used in conjunction with other buttons. Do not allow more than 5 seconds to elapse before pressing the next button, otherwise the player assumes you have changed your mind. If this happens, 'FTS' stops flashing. Press the FTS button again to restart the command.

Storing a program in the FTS memory

1. Set up a program as described in section 6D - Programming.
2. Press FTS.
– 'FTS' flashes on the display.
3. Press STORE.
– 'FTS' stops flashing.
– The display shows *'FtS'* and the ranking number of this program for a few moments.
– The program is stored in the FTS memory under this ranking number and can be recalled whenever you insert this disc.

If 'ERROR' appears on the display:
The FTS memory is full or the ranking number is higher than 195. You must erase some old FTS programs to make room to store this new program. No program has been set up.

4. Stick the FTS sticker with the ranking number on the spine of the disc holder.

FTS programmed play

1. Press FTS.
– 'FTS' flashes on the display.
2. Press PLAY/REPLAY.
– 'FTS' now stays lit up.
– Your favourite selection for this disc is now recalled and played automatically.

If 'ERROR' appears on the display:
There is no FTS program stored in the memory for this disc.

You can revert to normal play by pressing STOP/CM twice.
The instructions for playing a program also apply to the functions of the player during playback of an FTS program.

The FTS memory
The FTS memory will accept 1775 entries. Eight of these are used for the identification of each disc that you store in the FTS memory. In addition, 1 entry is used for each track in the program. The number of discs that you can store is thus dependent on the number of tracks per disc that you programme. If, for example, you programme an average of 5 tracks per disc, there is enough room for 109 discs - 1775:(8+5).
Each disc stored in the FTS memory is allocated a 3-digit ranking number, which is automatically shown on the display as '001', '002' etc. There are 195 ranking numbers available. A sheet with self-adhesive numbered stickers is supplied so that you can easily distinguish the discs with an FTS program. The sheet also contains a quantity of un-numbered stickers so that you can correct any mistakes.
A disc always retains the originally allocated ranking number, even when you erase the original selection by storing a new one. A ranking number will only be cancelled if you erase the disc completely from the FTS memory. This ranking number can then be allocated to another disc.
By erasing selections, space is made free in the memory. This also happens if you make a new selection for an already stored disc; this new selection is in fact stored in a different location from the old selection.
Where possible the space which is thus made available will be used for storing new selections, unless the size of the new selection does not correspond to the resulting free space. As soon as the memory becomes full, it is reorganized, i.e. the remaining free space is made available.
This reorganization is indicated by ***accelerated*** flashing of the FTS indication, and can take up to 10 seconds. The player should ***definitely not*** be switched off during this accelerated flashing, otherwise the entire FTS memory will be erased when it is switched on again!

Note: Storing a disc in the FTS memory does not mean that you can only play the selected tracks. You can just as easily play the complete disc, or compile another, temporary program. The brief flashing of the 'FTS' indication after the disc is loaded reminds you, however, that this disc has an FTS program. If you then wish to play that program, press PLAY/REPLAY while 'FTS' is still flashing.

To erase an FTS program for one single disc
1. Press FTS.
– 'FTS' flashes on the display.
2. Press TRACK ⏭ or ⏮ TRACK repeatedly until the ranking number to be erased appears on the display behind *'FtS'*.
3. Then press CLEAR immediately.
– *'FtS CLr'* will briefly appear on the display.
The selection in question has now been erased from the memory.

If you do not know the ranking number of a selection, you must first insert the disc.
1. First press FTS, then REVIEW.
– *'FtS'* and the required ranking number appear on the display.
2. Then follow steps 2 and 3.

Erasing all FTS programs at once.
Note: Only use this to erase the FTS programs for ***all*** your discs, for example if you wish to start anew.
1. Press FTS and then REVIEW or one of the ⏮ TRACK ⏭ buttons.
– *'FtS'* appears on the display together with a ranking number.
2. Whilst this is still being shown on the display, immediately press REPEAT and CLEAR simultaneously.
– *'FtS ALL'* will appear briefly on the display.
– The FTS memory has now been erased completely.

6F Other possibilities

PLAY MODE switch
This switch can be set to one of three positions:
– NORM: for normal use - each track is played one after the other.
– COPY: a 3-second pause is inserted after each track before the next track is played.
– AUTO: stops play at the end of a track until you press PAUSE.

Recording from your Compact Disc player*
You can of course make recordings on a cassette recorder, tape recorder or DAT recorder from your Compact Disc player. You can either connect the recorder directly to one of the analogue sockets of the Compact Disc player or via your Hi-Fi system.
When recording, you may find it useful to set the PLAY MODE switch to COPY or AUTO.
– COPY is useful if your cassette recorder has track-seeking facilities where the gaps between tracks are detected.
– AUTO enables you to determine the size of the gaps between tracks yourself. At a later stage, you can record material from another source in this gap.

**** Note for users in U.K.*** - Recording of material may require consent. See Copyright Act 1956 and The Performers' Protection Acts 1958 to 1972.

7. ADDITIONAL INFORMATION

7A Listening with headphones
With headphones connected to the PHONES socket, you can listen to discs without having to use an amplifier.
The headphones must have a 6.3 mm jack plug and an impedance between 8 and 2000 ohms.
You adjust the sound level with the VOLUME control.

7B Using the remote control handset
When the player is switched on and the disc is in place, virtually all functions can also be operated using the remote control handset.
When the player receives a remote control signal, the IR indication '(((O' lights up.
If, because of the siting of the player, it is difficult for the beam from the remote control handset to reach the player directly, or if the distance between the player and the place where you want to use the handset is too great, you can connect a separate receiver to one of the SYSTEM REMOTE CONTROL IN/OUT sockets. This receiver is available as an accessory under type number EM 2200.
If the player is part of a HiFi system which as its own rémote control system, whether this is built-in or separately connected, you can also operate it using this system by connecting the SYSTEM REMOTE CONTROL IN/OUT sockets of the player to those of the HiFi system.
Although the signals of the remote control handset can also be received via reflection, you are recommended to aim the remote control handset directly at the IR reciever.

7C Replacing batteries in the remote control handset
The remote control handset runs on three R03, UM4 or AAA 1.5 volt batteries. The life of a set of batteries is normally about one year.
Remove the batteries as soon as they are flat or if you are not going to use the remote control handset for any length of time, in order to prevent damage by possible battery leakage.

7D Using a timer

By using a timer you can make the player automatically start playing a disc at a particular time. To do this, your player must be switched on.

Press TIMER ON OFF.
When the timer switches on the power supply to the player again, the following takes place:
– 'PAUSE' appears on the display.
– Above 'MIN' a *'P'* appears and above 'SEC' a 10 second pause is counted down.
– Play begins.
If there is an FTS program for this disc in the memory, this will be played when the power supply is switched on.

7E Maintenance

Discs
Although Compact Discs are covered with a protective layer, it is still advisable to treat them carefully.
As long as you always pick up discs by the edge, and put them back in their holders immediately after use, cleaning will not normally be necessary.
However, should fingerprints, dust or dirt appear, you can wipe them off with a soft, lint-free cloth. Wipe the disc in a straight line from centre to edge.
Never use detergent, abrasive cleaning agents or cleaning agents used for conventional records!

The player
The player mechanism is fitted with self-lubricating bearings, and must not be oiled or greased.
Only use a damp cloth to clean the outside of the player. Do not use cleaning agents containing alcohol, spirits, ammonia or abrasives.
The disc tray should be kept free of dust.

8. TECHNICAL DATA

Typical audio performance
– Number of channels: 2
– Frequency range: 2-20 000 Hz
– Amplitude linearity: ±0.01 dB (20-20 000 Hz)
– Phase linearity: ±0.2° (20-20 000 Hz)
– Dynamic range: > 96 dB (20-20 000 Hz)
– Signal-to-noise ratio: > 103 dB (20-20 000 Hz)
– Channel separation: > 103 dB (1 kHz)
– Total harmonic distortion: < 0.002% (1 kHz)
– Wow and flutter: quartz crystal precision
– D/A conversion: quadruple oversampling (176.4 kHz) with digital filter and two 16-bit D/A converters
– Error correction system: Cross Interleaved Reed Solomon Code (CIRC)

Outputs
– ELECTRICAL: 0.5 V_{pp}
– ANALOGUE OUT FIX: 2 V_{rms}
– ANALOGUE OUT VAR: 2 V_{rms}, 64 steps of 1 dB
– Impedance PHONES: 8-2000 ohms.

Optical readout system (laser pick-up)
– Laser: semi-conductor AlGaAs
– Wavelength: 780 nm

Signal format
– Sampling frequency: 44.1 kHz
– Quantization: 16 bit linear/channel

Power supply
– Mains voltage: see type plate at rear of player
– Mains frequencies: 50 and 60 Hz
– Power consumption: 30 W approx.
– Safety requirements: IEC

Cabinet, general
– Material/finish: metal and polystyrene with decorative trim
– Dimensions (w × h × d): 420 × 104 × 363 mm
– Weight: 10.3 kg approx.
Disc
– Diameter: 120 mm
– Thickness: 1.2 mm
– Direction of rotation (seen from reading side): anti-clockwise
– Scanning velocity: 1.2-1.4 m/s
– Rotation speed: 500-200 rpm
– Playing time (theoretical): 74 min (stereo)
– Track pitch: 1.6 µm
– Material: plastic

The right is reserved to change data if necessary

This Compact Disc player complies with the radio interference requirements as laid down in EC (European Community) regulations.

8. BEFORE CALLING THE REPAIRMAN

If you suspect that your player is faulty, first consult this checklist. You may find you have overlooked something quite simple. Under no circumstances should you open up the player; this will invalidate all rights under the guarantee.

1. After pressing the ON/OFF switch, the display does not light.
– The button is not pressed in far enough.
– One of the plugs of the mains lead is not connected or is not making contact.
– There is no supply at the mains socket. Plug in another electrical appliance and check if that works.

2. After pressing OPEN, the disc tray does not slide out.
– The transit clamps have not been removed.
– The player is not switched on. Check that the display and the on/off indicators light up.
– The microprocessor has not received the command properly. Check if the disc tray opens if you switch the player off and on again, and then press OPEN once more.
– The disc tray drive is not functioning. You cannot rectify this yourself.

3. After pressing the front of the tray, PLAY/REPLAY, SCAN or SHUFFLE, the disc tray does not slide in.
– The mains supply has been interrupted. Check if the display is lit.
– The microprocessor has not received the command correctly. Check if the disc tray closes if you switch the player off and on again.
– The disc tray drive is not functioning. You cannot rectify this yourself. If a disc is in position, remove it, then push the disc tray in carefully to close it.

4. After closing the disc tray, 'DISC' and 'ERROR' light briefly.
– The disc is not inserted with the label upwards or there is no disc in the disc tray.
– The disc is dirty. See if cleaning the disc, or using another, clean disc, clears the fault.
– The disc is defective. Try another disc.
– There is an unwanted object in the disc tray.

5. The disc is being played (indicated by the track number or the elapsed time indication moving on regularly) but there is no sound.
– The amplifier is not switched on.
– The position of the amplifier source selector switch does not correspond with the input to which the player is connected.
– The amplifier or the loudspeakers connected to it are not working. Check with another sound source to see if this is the case.
– The microprocessor has not received the command correctly. Check if switching the player off and on again, and then restarting clears the fault.
– The headphone jack is not plugged in, or the VOLUME control is still set to minimum.
– The connection between the player and the amplifier is broken.
– The input to which the player is connected is defective. Check this by connecting the player to another input socket.

6. The sound is poor or distorted, or you can hear only one channel.
– The player is not connected to the CD, AUX, TUNER or TAPE IN input of the amplifier but to the PHONO input.
– One of the plugs of the connection cable is either not connected or not properly connected.
– The headphone jack is not plugged in properly.
– The disc is dirty or badly scratched. See if cleaning the disc or using another, clean or scratch-free disc improves the situation.
– There is an unwanted object in the disc tray.
– The amplifier or the loudspeakers connected to it are not working properly. Check with another sound source to see if this is the case.

7. Programming is not working properly.
– You must set the player to the direct programming mode by pressing PROGRAM/PLAY.
– The disc is dirty or badly scratched. See if cleaning the disc helps or try programming another disc.
– The microprocessor has not processed the commands properly. Erase the program by pressing STOP/CM and store it again; restart play and check if the fault has cleared.
– All 20 memory blocks are already occupied and you have missed 'ERROR' which indicates this.
– The FTS memory is full.

8. The following faults can be caused by the same circumstances:
Playback does not begin with the first track on the disc or of the program, but with another.
Playback stops before the end of the disc or the program has been reached.
– The PLAY MODE switch is not in the NORM position.
– The microprocessor has not processed the command correctly. Check if switching the player off and on again, and then restarting clears the fault.
– The disc is dirty or badly scratched. See if cleaning the disc or using another, clean or scratch-free disc clears the fault.
– The disc is defective. Try another disc.
– There is an unwanted object in the disc tray.

9. The player does not react to commands from the remote control handset.
– The distance to the player was too great, or you did not aim accurately enough in the direction of the player.
– The batteries are weak or flat.

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